DOCUMENT RESUME

ED 234 721 HE 016 678

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TITLE Laboratory Purposes and Functions: Issues for the National Study Group on Regional Educational Laboratories.
INSTITUTION National Inst. of Education (ED), Washington, DC.
PUB DATE 23 Aug 83
NOTE 36p.; For related documents, see ED 112 473, HE 016-673-685, and HE 016 689.
PUB TYPE Reports - Descriptive (141)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Administrative Policy; *Agency Role; Educational Development; *Educational Research; Elementary Secondary Education; *Federal Aid; Financial Support; Linking Agents; *Organizational Objectives; *Regional Laboratories; Technical Assistance
IDENTIFIERS National Institute of Education; *NIE R and D Centers and Regional Educational Labs

ABSTRACT

Issues concerning the purposes and functions of regional educational laboratories supported by the National Institute of Education (NIE) are examined. The analysis is designed to assist the Study Group on Regional Laboratories to develop and evaluate a number of alternative conceptions of laboratories. A brief history of the laboratories and existing legislation and policy are reviewed. A set of questions for each issue is also included. Attention is directed to the following concerns: (1) the purposes that NIE wishes to achieve through the regional laboratories; (2) identifying the primary clients of laboratories; (3) the functions that should be performed by the laboratories; and (4) the organizational structures that are appropriate for laboratories. It is noted that although laboratories share fundamental purposes, each lab has defined its specific mission in relation to its region and the wishes of its board. In addition to the research, development, and assistance provided to individual states, laboratories share a common purpose of facilitating sharing and exchange among the states in their region. The labs focus most of their attention on the improvement of elementary and secondary education, although they often work with colleges and universities. (SW)

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Laboratory Purposes and Functions: Issues for the National Study Group on Regional Educational Laboratories

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HE 016 678

August 23, 1983

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Preface

In response to Congressional direction, the National Institute of Education engaged in FY 1983 in a planning process designed to lead to an open competition of the regional educational laboratories and the national research and development centers as defined under Section 405(f) of the General Education Provisions Act.

As part of the planning process, the Institute convened a Laboratory Study Group, which met in two three-day sessions to review laboratory issues and provide advice and recommendations to the Director. The Laboratory Study Group consisted of sixteen persons representing likely clients or users of laboratory work, including education policy makers, practicing educators at various levels and community and parent representatives. It also included persons from organizations that are likely to work jointly with laboratories to offer services, as well as those with a background in conducting research, development or dissemination.

This paper was developed by NIE staff as part of a comprehensive briefing book on laboratory history, status and issues that was provided to Study Group members. Its purpose was to provide a background and stimulate discussion on specific laboratory issues.

This issue paper is one of a set of three staff papers that were provided to the Laboratory Study Group. The titles of the three papers and their authors are

Mack, David P., "Laboratory Purposes and Functions: Issues for the National Study Group on Regional Laboratories," August 23, 1983.

Schultz, Thomas, "Funding of Regional Laboratories: Issues for the National Study Group on Regional Laboratories," August 23, 1983.

Schultz, Thomas, and Dominic, Joseph, "Laboratory Governance: Issues for the Study Group on Regional Laboratories," August 23, 1983.

August 23, 1983

Laboratory Purposes and Functions: Issues for the National Study Group on Regional Educational Laboratories

Introduction

This paper examines a set of issues concerning the purposes and functions of regional educational laboratories, to be competed by the National Institute of Education during the coming year. Each issue is analyzed by discussing various viewpoints in the context of the history and status of related lab activity. The discussion of each issue is followed by a set of questions whose purpose is to stimulate Study Group discussion. The paper is designed to assist the Study Group on Regional Laboratories to develop and analyze a number of alternative conceptions of laboratories, which will be presented by the Group to the Director as part of a final report.

The following questions form the issues that frame the paper:

- What purposes does NIE wish to achieve through the regional laboratories?
- Who should be the primary clients of laboratories?
- What functions should be performed by the laboratories?
- What organizational structures are appropriate for labs?

The purpose of this paper is to provide information and to present and discuss issues, not to build a case for a particular point of view. In addition, it should be understood that the role of the study group is to advise the Director of the National Institute of Education by providing options for his consideration. The Director remains responsible for final decisions related to the purposes and functions of laboratories.

Background

Only seven laboratories remain from the 20 whose funding began under the Elementary and Secondary Education Act of 1965. The early work of the labs grew from integrated institutional planning and was typified by long-term applied research and development efforts.

Laboratories were originally conceived as institutions whose purpose was to bridge the gap between research and practice. The initial conception did not take hold in most of the early labs because at the time the research enterprise was so small and there were so few solid R&D outcomes to disseminate. As a result, the early labs tried to make up for this deficiency by concentrating on long term development work, particularly curriculum development.

The transfer of the laboratories to NIE in 1972 marked the beginning of what has been called the "program purchase" policy. A specified portion of NIE's budget was designated for support of work in the labs. The money was awarded to the labs based on the results of NIE-initiated competitions with eligibility limited to the labs and centers. This resulted in a nationally-oriented, short term, eclectic pattern of activity in the laboratories. Because of their relative competitive abilities, it also resulted in growth for the strong labs and decline for the weaker ones.

Following the work of the Congressionally mandated, "Panel for the Review of Laboratory and Center Operations," NIE issued its January 15, 1979 administrative policy on the Institute's long-term relationship with the laboratories and centers. For the laboratories, that policy provided for long term support, agreed to fund the institutional as well as the program requirements of labs, and emphasized work in the labs that was responsive to regional needs.

Existing Legislation and Policy

At the present time there are two sources of authority regarding the purposes and functions of NIE-sponsored work in the laboratories. These are found in NIE's authorizing legislation and in NIE's January 15, 1979 administrative policy.

Section 405(f) of the General Education Provisions Act, Amended October 3, 1980, P.L. 96-374 (20 U.S. Code 1221e) mandates NIE with the responsibility of supporting work in the regional educational laboratories and the research and development centers. The legislation states that under NIE oversight the laboratories and centers will

> (1) be responsible for the conduct of research and development activities;
> (ii) prepare a long-range plan relating to the conduct of such research and development activities;
> (iii) insure that information developed as a result of such research and development activities, including new educational methods, practices, techniques, and products, be disseminated;
> (iv) provide technical assistance to appropriate educational agencies and institutions; and
> (v) to the extent practicable, provide training for individuals, emphasizing training opportunities for women and members of minority groups, in the use of new educational methods, practices, techniques, and products developed in connection with such activities; ...

The law also states that

> (D) the director determines that the proposed activities will be consistent with the education research and development program and dissemination activities which are being conducted by the Institute.

The Final Report to Congress of the Panel for the Review of Laboratory and Center Operations offered a definition of laboratory purposes that was incorporated into the January 15, 1979 guidelines for

NIE's relationship with laboratories and centers. That statement has shaped NIE's relationship with the laboratories from 1979 until the present. It states that:

> The central purpose of each laboratory is to determine and help meet the educational research and development needs in a specified region of the country...more specifically, laboratories are intended to:
>
> - o identify concerns and priorities through regionally representative governing and advisory structures and activities that help the regional clientele define their needs;
> - o conduct applied research and development in pursuit of those priorities;
> - o facilitate communication among educational agencies and individuals in the region;
> - o promote the use in the region of R&D results from all sources; and
> - o nationally disseminate the results of their activities. (pp. 2,3)

The January 1979 statement goes on to say that

> "NIE will encourage all special institutions to collaborate with one another and with other research and development performers in the planning and conduct of their work to maximize the productive sharing of ideas, findings and products, to minimize duplication of effort, and to ensure the widest possible dissemination of useful research and development results." (p.3)

These guidelines, in their four years of implementation, have successfully influenced labs to

- o work through their boards to assess needs and set priorities for their regions;
- o focus the bulk of their research, development and assistance work on the regional needs identified; and
- o gain in strength and reputation for providing technical assistance and facilitating communication in their regions.

However, the guidelines have not resulted in the expected sharing and collaboration across institutions.

Laboratory Purposes and Functions: Some Issues

Before procurements can be developed for the competition of laboratories there are a number of basic questions that must be answered concerning what labs are and what they are to do -- their purposes and their functions. Past guidelines and practices left the answers to these questions rather open. Laboratories have had broad purposes and wide ranging functions. Each laboratory has framed its mission somewhat differently, and each has pursued its own strategies through a unique blend of activities.

While this openness and flexibility has allowed each lab to be responsive to its region, it has resulted in an ambiguous nationwide picture of what labs are and what they do. Since labs have so few defining guidelines either in the law or in NIE policy, regional client pressure moves them into more broadly defined areas. A cost of this type of regionally based initiative is that lab efforts tend to become diffused rather than focused.

Because of the requirement to recompete the laboratories and because of the desire to improve the effectiveness and efficiency of the labs, NIE wishes now to reconsider issues related to their purposes and functions. The section that follows presents a number of critical questions related to what the labs are to be and to do. For each issue several points of view are summarized and additional questions are raised for further Study Group discussion.

What purposes does NIE wish to achieve through the regional educational laboratories?

At the present time laboratories serve a variety of purposes -- probably more than any single institution could ever hope to pursue effectively. NIE has imposed few constraints on the labs and allowed regional needs to set their priorities. Although laboratories share fundamental purposes, each lab has defined its specific mission in relation to its region and the wishes of its Board.

On the other hand, labs collectively have their present purposes constrained in some important ways. For example, each laboratory serves a designated region of the country and stakeholders from the region held shape its work. In addition to the research, development and assistance provided to individual states, labs share a common purpose of facilitating sharing and exchange among the states in their region.

The laboratories focus most of their research, development and assistance efforts on the improvement of elementary and secondary education. Although labs often work with colleges and universities and members of their staffs, their joint efforts are usually aimed at improving some aspect of elementary and secondary education.

The emphasis of labs in on applied work, creating the partnership necessary to harness research and development for the improvement of educational practice. This common emphasis manifests itself in a blend of applied research, development, dissemination, training and assistance activities that is unique to each institution. Each of these functions is discussed in greater detail later in this paper.

In the present competition NIE wishes to provide a clear statement of the broad objectives for which support is to be provided to the laboratories. The existing broad purpose of laboratories -- to contribute to the general improvement of elementary and secondary education by conducting applied research and development and by promoting the use in their region of R&D from all sources -- is only one approach NIE could take.

For example, the Institute could

- ask the laboratories to shift their efforts toward working more directly to improve the quality of education at the level of local districts and schools.
- encourage labs to focus a greater share of their efforts on working with existing organizations in the region to help them strengthen their R & D and assistance capabilities and to work with those organizations to mount cooperative assaults on high priority educational problems.
- encourage labs to concentrate a greater share of their resources on using R&D knowledge to inform and improve policy-making activities in the region.

These are only three of the many possible approaches to lab purposes that could be taken by NIE in the competition. As the functions of laboratories are discussed later in this paper many other possibilities will emerge.

The following questions about the purposes of laboratories are among those the Institute must answer in preparation for the lab competition.

- How narrowly should NIE define the purposes for which laboratories will receive Institute funding?
- How much discretion should reside in the labs to define their own purposes for NIE-funded work?
- Are there purposes that should be excluded from NIE support?

Who Should be the primary clients of laboratories?

In general, the present approach is to view state education agencies (SEAs) as a principal point of access for the delivery of laboratory services. It is argued that SEAs have the ultimate legal responsibility for education in each state. They have authority and power derived from legally mandated responsibilities. SEAs control a level of fiscal resources that gives them by far the greatest potential of any single organization to affect the quality of education in their state.

Most laboratories now work closely with SEA staff members as important clients. Some of the labs work through SEAs to gain access to local school districts or, at minimum, keep SEAs fully informed of their work with districts and schools. Several labs have one or more chief state school officers on their boards; all have some form of SEA representation.

Some educators have questioned the SEA-centered strategy of laboratories on the grounds that the mandates of SEAs are basically regulatory. This means that in many states few SEA resources are available for research-based improvement efforts. With recent declines in available resources many SEAs have been forced to reduce staff and programs that provide assistance to help improve the quality of local schools.

Supporters of this viewpoint hold that laboratories should concentrate their resources on educational improvement at the school district or even the local school level. It is argued that this strategy has greater potential for positive immediate impact on pressing educational problems. Recent NIE-sponsored research emphasizes the important relationships among effective schools, classroom management and improved student performance. Even though

laboratories could reach directly only a small sample of all school districts, advocates of the approach believe the aggregate impact of labs would be greater if they delivered assistance and research initiative directly to schools, school boards and districts.

Others argue that laboratories should devote more resources to serving state policymakers. This would extend beyond chief state school officers to include governors' offices, legislators and state boards of education. Holders of these important positions, through their corporate decisions set the policy context for education in each state. Their decisions can either enhance or impede educational improvement efforts. Lab activity could be turned toward such things as policy research, dissemination and assistance, or toward futures-oriented problem identification and forecasting.

Another view argues that laboratories should concentrate on strengthening the capabilities of existing organizations in the region, who in turn assist schools and districts interested in improving their programs through the implementation of educational research findings. This approach would limit lab clients to organizations that engage in dissemination or technical assistance, such as SEAs; schools, colleges and departments of education; intermediate service agencies; study councils; large LEAs; and other similar organizations.

The following questions regarding lab clients are among those that must be answered by NIE in preparation for the competition.

- Should NIE attempt to provide direction or criteria to the laboratories for their selection of clients?

If so,

- What groups should NIE encourage labs to identify as clients?
- How explicit should NIE be about who receives services?

What functions should be performed by the laboratories?

The following functions are generally associated with the regional educational laboratories: research, development, dissemination, technical assistance, training and professional development, needs assessment and cross-institutional cooperation and sharing. Current lab functions are specified in the legislation, were incorporated into the January, 1979 NIE guidelines on labs, or have emerged naturally as a response to pressures or needs. These functions are carried out in different ways in different laboratories, each having a different blend of activities and emphases.

In the section to follow each of these characteristic functions will be discussed, including examples of how the function is being carried out, and estimates of the present level of emphasis. Finally, a set of questions related to each function will be posed to stimulate discussion.

Research. Research activities account for approximately 36 per cent of the nearly $15 million budget of the laboratories. Most of the research engaged in by the laboratories is applied rather than basic research. Applied research in the labs tends to be long term (five years or more); focused on practical educational problems; and often augmented by products designed to translate research into practice. The research activites for the laboratories result from a process of regional definition of priorities in which the lab Board of Directors takes an active part.

Much of the research conducted by the laboratories deals with issues related to the general areas of teaching and instruction, classroom management, and schooling, often with direct ties to the school improvement assistance activities of the labs. The basic skills also receive heavy emphasis in the research activities of the laboratories. Very little policy research is conducted by the laboratories.

With the exception of the research on teaching and instructional management conducted by the Far West Laboratory, little of the laboratory research has captured national attention. This does not mean that the research conducted in the labs is of poor quality. On the contrary, the applied research conducted by the labs generally is well managed and competently performed.

However, with a few exceptions, laboratories over the years have not been able to attract and hold the top researchers in the nation. Because they are not primarily research organizations labs cannot offer the benefits of a community of researchers, and their research staffs are somewhat isolated from needed professional exchange and support. The R&D centers, on the other hand, focus on national issues, define their research domains more narrowly than labs, and specialize in research. For that reason they are able to concentrate outstanding research staffs in a single institution. Nevertheless, having a resident research staff in a laboratory can contribute to the quality of the organization by making the lab more reflective, more self-critical and more closely tied to current knowledge.

A list of the research projects across the labs gives the appearance of an uncoordinated and idiosyncratic set of activities. This is the outcome of a deliberate policy intended to give laboratories generous flexibility to respond to the needs and interests of their region.

Perhaps because of that policy of regional responsiveness, NIE has never tried to capitalize on one of the most important natural advantages laboratories offer; they are a unique set of institutions with similar missions that, after the competiton, will blanket the entire nation. One approach the Institute could take in the competition is to build in mechanisms designed to result in more communication and cooperative effort across the labs, with an eye toward cumulation of results and avoidance of costly duplication.

There are a number of possible approaches NIE could take regarding the nature of the research the agency wishes to sponsor in the laboratories. The following questions suggest some of the courses available.

- Should NIE reaffirm its present policy of allowing labs to propose work based on the outcomes of regional needs assessments?
- Should the Federal government establish Departmental and agency priorities within which proposed research must fall?
- What kinds and balance of research is it appropriate for NIE to sponsor in the labs: long term vs. short term; basic vs. applied; research done by centralized lab staff vs. co-investigative research involving teachers and other practicing educators?
- Should labs be encouraged to conduct more policy research, perhaps using their network characteristics to link policy researchers and policy makers around issues of common concern both within and across regions?

- Should NIE encourage cross-institutional research projects that take advantage of the nationwide network of labs, extending the sources of data; the applicability; the staff resources; and the potential impact of the work?

- Should NIE exercise a stronger coordinative role over lab research? For instance, should NIE provide feedback to research proposals across the network of labs rather than just to each lab individually, so as to reduce overlap and direct labs into problems not covered elsewhere?

Development. Development activities currently account for approximately 13 per cent of the budget of the laboratories. This allocation represents a major shift in emphasis from the formative days of laboratories when there was a heavier emphasis on development. For example, in their early years the the labs were heavily engaged in curriculum development. Now there are only two curriculum development projects in the laboratories, the Comprehensive School Mathematics Program and the Northwest Indian Reading Program. One reason for this is that it is the general policy of NIE not to support curriculum development.

Most of the development work of the laboratories is now focused on creating resources that are directly useful in providing assistance to lab clients. Examples are training programs, workshop materials and training formats, directories of exemplary programs and practices, descriptions and evaluations of computer courseware, and targeted syntheses or summaries of research.

The development projects of the labs are often tied to the research from which they are derived, and just as often include dissemination and technical assistance activities designed to get the products used.

Most of the development work of the labs is long term in nature and the resulting materials often are in high demand. For example, the Research and Development Interpretation Service, now at the AEL lab, has developed a series of four syntheses of basic skills research in the areas of reading, elementary and secondary mathematics, and oral and written composition. These publications, developed for teacher use, have been so popular and of such high quality that other organizations -- principally SEAs and professional associations -- have produced and circulated more than 60,000 reprints at their own expense.

The labs tend to be proprietary toward the materials they develop. In spite of this there is considerable sharing and cooperative activity involving lab-developed materials across the network of labs.

Of all of the work that labs do, development projects are most likely to result in saleable products. This implies competition with other organizations that depend upon development as a source of income and raises questions about an appropriate Federal role. On the other hand successful development brings labs credibility, visibility and alternative sources of income.

Some questions regarding development that have implications for the competition are listed below.

- Should NIE encourage labs to engage in development?

If so,

- Should NIE take a position on the proportion of lab activity that should be devoted to development?
- What type development activities should NIE encourage the labs to emphasize?
- To what extent should a laboratory be allowed to specialize in a particular type of development with the purpose of sharing the results across the system of labs, as well as beyond?

Providing Services to Clients in the Laboratory Region. This section reviews three important functions of the laboratories: dissemination; technical assistance, and training and professional development. These three functions become so blended in most lab activities that it is difficult to discuss them separately. Together they comprise approximately 51 per cent of all lab activity.

Laboratories' assistance activities take several forms. Illustrative services are:

- o Building links between practicing educators and sources of research knowledge.
  - disseminating research knowledge through general publications and response to specific requests;
  - holding forums (conferences, seminars, workshops) that provide clients with an understanding of current research and its potential for addressing pressing regional needs; and
  - organizing networks that facilitate communication and resource sharing among organizations and individuals who conduct research, who provide dissemination and knowledge utilization assistance, and who provide educational services in SEAs, districts, schools and classrooms.
- o Providing direct assistance to state, intermediate and local education agencies in the use of research outcomes to improve educational practice.
  - providing assistance in problem identification and clarification;
  - matching clients to sources of assistance through referral or brokering activities;
  - collecting, tailoring and packaging research outcomes in forms useful to specific audiences or for specific improvement efforts;
  - engaging in joint planning activities; and
  - providing consultation throughout the improvement process.

- o Providing training and professional development activities.
  - sponsoring training and internships for aspiring researchers, particularly for women and minorities;
  - designing training programs for teachers, principals and other practitioners around specific areas of interest or bodies of research; and
  - providing training for personnel who work in dissemination and assistance roles.

The dissemination activities of the laboratories are of two kinds, general purpose dissemination and targeted dissemination. Targeted dissemination activities are designed to inform potential users about particular innovations, products or findings, often resulting from the research and development work of the laboratory itself. Frequently, targeted dissemination activities are combined with assistance to clients actively engaged in actually applying R&D outcomes.

An example of targeted dissemination in a laboratory is the Goal-Based Education project at Northwest Lab that has created a directory of successful examples of goal-based projects across the country. Other examples are the Basic Skills project at RBS and the School Improvement project at McREL, where each uses a somehwat different approach to disseminating and assisting in the implementation of the effective schools research.

General purpose dissemination is an extensive and unique part of what labs do. Labs draw from a variety of sources to respond to the information requests of a wide array of clients, each experiencing different problems and having different needs.

The Research and Development Exchange program (RDx) is a principal element of the general purpose dissemination activity of the laboratories. Initiated in 1976, the RDx is a nationwide network of projects located in the regional educational laboratories, an R&D center and a consortium of educational practitioners in the Northeast. The individual exchanges serve their regions by engaging in such activities as (1) providing individualized dissemination services and technical assistance to SEA staffs and others; (2) preparing and disseminating a variety of newsletters and other documents that report, synthesize and interpret the results of research; (3) holding numerous regional and state workshops and seminars on topics such as reading, math, effective schools, technology, program implementation and school improvement strategies, etc.; and (4) conducting regional dissemination forums or training activities for dissemination staff and professionals who provide technical assistance for knowledge-based school improvement.

Although six of the seven laboratories have ERIC collections, only one offers general information search services to clients. Three others offer limited search services. Typically, the labs encourage clients to use other sources for search services -- a state education agency, a state library, a university or sometimes an intermediate service agency. Labs then provide what is not available from other sources, assist in searches that are particularly sophisticated, or track down information not accessible through commonly available databases. Through the Resource and Referral Service database on databases and through the nationwide network of regional exchanges, labs are particularly proficient at responding quickly to difficult information requests.

Labs go far beyond conducting searches in response to information requests. In support of Alaska's effective schools initiative, the Northwest lab created several documents that synthesized the current research in relevant topical areas. In addition, the labs engage in active dissemination efforts designed to familiarize educators in the region with important current research outcomes, and increase their abilities to use the research.

The following questions regarding the dissemination functions of laboratories are among those NIE must answer in preparation for the lab competition.

- How much emphasis should be placed on the dissemination function in labs?
- To what extent is general purpose dissemination a legitimate function of laboratories?
- To what extent should NIE encourage labs to proactively focus their dissemination efforts on high priority substantive areas?
- To what extent should NIE encourage labs to engage in activities where dissemination and technical assistance are merged?

The technical assistance function permeates the work of the laboratories. As a complement to their dissemination activities the regional exchanges provide extensive assistance in the application of research results. Various forms of planning and implementation assistance are often available as aspects of the many discrete research, development and dissemination projects in the labs. Regional services projects located in four labs have their resources devoted principally to providing technical assistance.

The laboratories tend to use facilitative, problem-solving approaches in providing client assistance. Typically, the client identifies the problem for which help is needed and approaches the appropriate contact person in the laboratory for assistance. After extensive discussion and clarification of the problem, agreement is reached on an appropriate assistance role for the lab and the resources to be devoted to the activity. Assistance is likely to consist mainly of general consultation regarding planning, implementation and evaluation processes and of staff help in tracking down applicable research outcomes, locations and descriptions of programs similar to that under consideration, and names of knowledgable experts. Depending upon the needs, assistance may be provided by staff from several parts of the lab, or help in special technical areas may be acquired outside the lab. Lab involvement is usually rather narrowly predefined. Assistance may consist of no more than a few interactions or may be paced over a year. Only occasionally would a specific technical assistance activity continue for more than a year.

Laboratories sometimes come into conflict with other organizations in the region who feel that the work of the labs competes with, rather than complements, their own. NIE encourages labs to work collaboratively with one another and with other assistance organizations to respond to clients' needs. Many lab staff have achieved high levels of skill in building and sustaining interpersonal networks and inter-organizational arrangements.

NIE encourages laboratories to engage in technical assistance strategies that do not foster long term client dependence. However, such capacity building strategies are difficult to carry out successfully, and from one point of view are counterproductive to independent lab survival.

Since the technical assistance activities of the laboratories are planned cooperatively with clients, they are impossible to predict far in advance. For this reason NIE accepts rather general scopes of work from the labs for their technical assistance activities. This also means that technical assistance activities require a flexible style of monitoring; it is demanding to stay current with what a laboratory is doing in its assistance activities.

Technical assistance activities can become very expensive and a serious drain on resources unless a laboratory places clearly constrained limits on the assistance they will provide. Yet, it is in the area of technical assistance that laboratories experience some of their best opportunities to market their services and generate additional resources to extend their educational improvement capabilities in the region.

The following questions regarding the technical assistance function of laboratories are among those that must be addressed by NIE in preparation for the competition.

- What limits should NIE place on what constitutes appropriate technical assistance activities for laboratories?
- To whom should technical assistance activities be available? SEAs, LEAs, intermediate agencies, other service providers?
- Should labs be encouraged, permitted or prohibited from using NIE-supported technical assistance activities as a way to market lab services for a fee?

- Should NIE more strongly encourage labs to deliver technical assistance in ways designed to build client independence?

- Should NIE continue to stress the important of collaboration with other assistance organizations in providing technical assistance to clients?

Training and professional development are specifically mandated in NIE's authorizing legislation for laboratories and centers, with particular reference to women and minorities. One response of the laboratories to this mandate has been to create specific training and apprenticeship projects designed to help women and minorities participate more fully in educational research, development and dissemination functions.

In FY 1980 six laborstories operated training and apprenticeship programs for women and minorities, having a combined funding of $635K. In FY 1983 only two of those projects remain for a combined spending of $204K. In at least one other case a training program emphasizing women and minorities has been combined with the institutional functions activities of an institution.

Training and professional development activities are conducted as part of the many dissemination and technical assistance projects in the laboratories. Much of this activity involves working with people in groups such as workshops, seminars and conferences. Just one example of this is the work of the R&D exchanges. A 1980 survey looked at the workshop and staff development activities of the regional exchanges across seven laboratories. The study showed that workshops and staff development activities of three types were held. Workshops concentrated on:

- presenting information that increased participants' knowledge and awareness;

- working with materials and interacting with the researchers or developers; or

- focusing on specific prescriptions for improvement.

A total of 114 staff development events with approximately 5200 participants were sponsored by the regional exchanges that year. At that time the exchanges accounted for about one-third of the dissemination and technical assistance activity of the labs.

The strategy of bringing groups of educators or policy makers together in structured forums -- workshops, seminars, etc. -- has been favored by the laboratories and has generally resulted in satisfied participants. However, questions have been raised about the cost effectiveness of the strategy. It is very expensive to bring people together, regardless of who pays for it. Even if travel costs were low the strategy of holding group events in central locations severely limits participation. Suggestions have been made that labs test alternatives to group meetings, including technologically assisted communication.

Some labs have tried something called the "training of trainers" approach. A laboratory develops a training module around a high interest topic where there is sufficient related research. The laboratory prepares a number of people from the region as trainers, who in turn use the prepackaged training module with teachers, administrators or others as appropriate. In one instance a laboratory using this approach developed a module for training members of parent advisory committees. Using a nucleus of 100 local trainers, a state education agency worked with the lab to provide training to 15,000 PAC members. The only cost to the laboratory was for the development of the materials. It is not unusual for a laboratory to create a resource of this type and then spin it off to other organizations in the region for use.

On the whole, however, the training activities of laboratories are part of what is fundamentally a technical assistance rather than a professional development approach. A technical assistance approach is problem centered and incorporates training activities as staff need additional knowledge or skills to participate in solving the problem. A professional development approach focuses instead on the needs of a particular group of practitioners for increased knowledge or improved skills. Defined in this way, the professional development approach is rarely used by the labs.

The following are examples of the questions regarding training and professional development that face NIE in the lab competition.

- Should NIE provide explicit guidance regarding the nature and amount of training and professional development activity expected of the labs?

For example,

- Should the Institute take a position on lab participation in training programs for women and minority group members engaged in educational R&D?

Cross-Institutional Cooperation and Sharing. Laboratories often participate in activities that extend beyond their regions. For instance, several laboratories may be engaged in similar work and therefore decide to form a consortium or network for sharing resources, ideas and outcomes. These networks last as long as there is interest in the topical area and the arrangement offers mutual benefit -- sometimes for months or even years.

Cross-institutional cooperation and sharing includes such activities as:

- o facilitating communication across the labs concerning R&D needs, resources and activities;
- o engaging in collaborative improvement efforts across regional boundaries;
- o cooperating in Federally initiated dissemination, improvement and information gathering activities (e.g., working with NDN, Chapter I, ED Regional Offices); and
- o participating in activities designed to draw on the lab's knowledge of regional needs to inform Federal research and policy agendas.

The clearest example of cross institutional sharing in the laboratories is the R&D Exchange system in which all the laboratories participate. In addition to providing dissemination and assistance within their own region, the regional exchanges work together in shared activity. This is done through a formal mechanism called the RDx coordinating committee that consists of the directors of the separate exchanges. The RDx system benefits from the work of three support services that provide specialized help.

The support services include the R&D Interpretation Service that synthesizes research findings in formats easily used by practicing educators; the Dissemination Staff Seminars (no longer funded) that bring researchers and their work together with those who provide assistance in the use of research; the Resource and Referral Service that provides information about where to go to find knowledge about research and practice on specific educational topics; and the System Support Service that provides management and logistical support related to regional exchange networking and sharing activities.

One point of view maintains that cross institutional activity consumes resources that more appropriately should be devoted to serving clients in the individual lab regions. However, others cite several potential benefits of cross-institutional cooperation. They include:

- o providing a mechanism for individual regions to tap the resources of all regions;
- o providing active communication channels between institutions;
- o allowing labs to share in endeavors that have high potential to improve educational practice, but which do not receive high priority in a regional needs assessment and priority setting process. For example, equity issues often rank low in needs assessments but may, in fact, represent legitimate and serious problems;
- o avoiding overlap and duplication of effort; and
- o establishing formal channels of communication and cooperative mechanisms with Federal agencies through which information can be exchanged and joint efforts undertaken.

Execpt for the RDx system NIE has not actively encouraged or provided incentives for cross-institutional cooperative activity. Some cooperative program activity has occurred across the labs in specific areas, such as career education. Some cooperative program activity has occurred across the labs in specific ones, as career education. There have been no instances where NIE has facilitated cooperative activity across the laboratories at the management level. There has, however, been some cooperative activity planned and carried out at the lab management level under other auspices, notably the Cooperative School Improvement program coordinated by the Council for Educational Development and Research (CEDaR).

The following issues regarding cross-institutional cooperation confront NIE in preparing for the laboratory competition.

- o Does NIE wish to encourage cross-institutional cooperative activity on the part of the laboratories and the centers?

If so,

- o What portion of a lab's resources should be reserved for cooperative activity beyond the region?
- o What incentives can NIE use to encourage cross-institutional cooperative activity?
- o How much direction should NIE provide for such activity?
- o To what extent should labs be required or encouraged to cooperate with each other in working with NIE and the Education Department to achieve certain Federal objectives or to pursue Federal priorities?
- o Should NIE take an active stance in working directly with lab directors and boards to facilitate cross-institutional coordination?

Institutional Functions

NIE has been responsible for funding the laboratories since the inception of the agency in 1971. Until 1980, NIE funding took the form of support for individual projects, with awards often made through sheltered competitions where labs and centers were the only eligible bidders. During this period NIE did not offer institutional support to the labs.

In 1979 NIE revised its policy toward the labs and centers, entering into long term agreements with the institutions, which took effect with fiscal year (FY) 1980 funding. The January 1979 NIE guidelines that spelled out the general terms of this agreement recognized that maintaining and strengthening a lab's institutional capabilities is a legitimate and necessary function of laboratories. Under that policy NIE has agreed to support the costs of maintaining and strengthening the institutional capabilities of laboratories, as well as to provide

support for program activities. In addition, the Institute has designated NIE institutional monitors who relate to the labs and review their work at an institutional level.

For three years -- FY 1980, 1981 and 1982 -- NIE received and funded institutional proposals from each laboratory in addition to their program proposals. Laboratory institutional functions for which NIE provided funding under these proposals included the following:

- o maintenance of strong and broadly representative governance and advisory structures;
- o assessment of needs of the region;
- o long-range planning of institutional and program responses to the region's educational needs;
- o communication with constituents in the region;
- o internal staff development; and
- o quality control and evaluation of lab activity and impact.

In 1982 NIE received proposals from the laboratories for the remaining two years of their long term agreements. Fearing that NIE was no longer willing to provide institutional support, only one lab submitted a proposal containing an institutional functions project. The others continued to engage in many of the functions but prorated their costs across the several program projects. This means that institutional monitors no longer have a detailed scope of work to assist them in monitoring the institutional work of the labs.

While all laboratories engage in the functions described above, labs, because of differences in regional needs, in organizational capabilities or in board policy, vary in the emphasis they place on each of the functions.

Underlying and informing all the activity of laboratories is the needs assessment function. The function is closely tied to the governance structure, which uses the results of needs assessment activities to set lab priorities. The heavy emphasis in labs on comprehensive needs assessment makes them unique among R&D institutions.

There are some weaknesses of the needs assessment function as presently practiced by the labs; NIE's policy and guidelines on needs assessment are limited and vague. For example:

- Every laboratory approaches needs assessment differently. While in one sense this is understandable, it eliminates the possibility of aggregating needs data across regions to get a sense of broader, even nation-wide, needs. As a consequence, lab needs assessments don't influence NIE's non-lab research agenda.

- Lab assessments tend to look only at needs and seldom catalog the resources and capabilities available to address the needs. This additional aspect is needed before a clear role for the lab and for others in the region can be defined.

- The present needs assessment and priority setting processes of labs tend to lack continuity and do not have feedback loops that provide a check from year to year on how well needs are being met.

- The needs statements of some labs are inconsistent with those of the states they work with; lab needs assessments have little direct impact on SEA planning, and labs sometimes ignore the results of SEA needs assessments.

Another important issue has to do with the tension between the requirement that laboratories respond to the needs of their region and the pressure for their work also to be consistent with Federally established priorities. Laboratories are regional institutions whose board and whose clients are rooted in the region. In many important ways the future of a lab depends upon its success in satisfying the critical demands of key constituencies in the region.

On the other hand, the laboratories represent a valuable national resource. As a network of institutions there are things of nationwide significance that would be difficult to accomplish in any other-way. In addition, a clear statement of Federal priorities could provide a helpful framework for screening, testing and focusing the priorities that emerge from lab needs assessments in the regions.

The following questions concerning the institutional functions of laboratories are among those NIE needs to answer in preparation for the laboratory competition.

- Should NIE continue to offer funding for laboratory institutional functions as distinct activities having a scope of work separate from the program proposals of the labs?

If so,

- What activities should be included under institutional functions? Should any be particularly emphasized?
- Should "cross-institutional cooperation and sharing" activities be funded and monitored as an institutional function?
- What guidance should NIE give to the laboratories regarding needs assessment? Should NIE strive for consistency across institutions in the way the labs carry out and report data from their needs assessment and priority setting procees?

- To what extent should NIE attempt to tap into the needs assessment process of labs for data to determine nationwide priorities?

- What balance should NIE seek in the emphasis it wishes labs to place on regional versus Federal priorities?

What organizational structures are appropriate for labs?

Most current laboratories are autonomous organizations that maintain a strong central staff capable of doing their own research and handling most assistance requests internally. Supporters of this approach argue that a lab must be able to attract and hold a strong and balanced staff if it is to exert leadership in its region and if it is expected to make a significant impact. Without this strong centralized staff, advocates argue, labs will be no different from the many other R&D organizations that do similar work. In practice, a few laboratories have been able to attract enough resources to be very successful at maintaining a strong centralized institution that conducts most of its work internally. In some instances this powerful institutional capacity has made it possible for a lab to make outstanding accomplishments.

Others point out that this is a very expensive strategy, perhaps too expensive for the Federal government to support nationwide. They also point out that it often places labs in a competitive position with other organizations in the region.

This point of view maintains that there already are many organizations in each region that conduct research and provide assistance in applying the results of R&D. Rather than compete with or duplicate the work of other organizations, the laboratories should enhance and complement the work of others. This leads to a model where the

laboratory employs various strategies -- coordination, collaboration, brokerage, capacity building -- to strengthen both the capabilities and the role of other organizations in their region.

This strategy has been tried with some success, particularly by McREL, but it has its problems. A compact, facilitative lab has difficulty competing for resources in addition to those from NIE. Also, this approach, often referred to as brokerage, is contrary to the natural need of an organization to maintain and secure its future by premiering its own work.

Interest also has been expressed in the concept of a laboratory sponsored and operated as a consortium of client organizations. While no current laboratory fits this model, NIE has experience with two similar non-lab regional service organizations that do. These are the Southeastern Regional Council for Educational Improvement and the Northeast Regional Exchange, each of which began as a consortium of the chief state school officers in their respective region. Subsequently, the Northeast Exchange expanded its board to include representation in addition to the chiefs. Each of these organizations is expected to compete to be designated the laboratory in its region.

These two organizations have achieved unusually strong ties with the SEAs in their regions, far stronger than most labs. Each has been successful in generating and delivering an array of useful services. The consortia tend more than the labs to engage in work that is short term, immediately applicable and addresses the pragmatic problems of educators.

Research -- particularly long term domain-based research -- is not stressed by the consortia. This is partly because the funding for the consortia is at a lower level and is more uncertain than that of the labs. It is also true because long term, domain-based research is seldom assigned high priority by the practicing educators that make up the boards of consortia. At the Chicago and Kansas City regional open meetings conducted by NIE, chief state school officers or their representatives from eight states made statements concerning the need for a lab in the Midwest. Research, other than helping SEAs with their short-term decision-oriented research needs, was not mentioned in testimony from the states.

Under existing policy the consortia -- particularly the Southeast Council -- would be required to broaden their governing boards to qualify to be designated a laboratory. Based on existing practice each would also need to broaden its clientele and the scope of its activities.

All the current laboratories are autonomous organizations with an independent board of directors. But it is easy to imagine that NIE would receive applications in the lab competition from organizations that were sub units of a larger organization. For example, a university might propose to be the host organization for the laboratory in its region. The implications of such a "nested" organizational configuration for a laboratory are discussed in a companion paper on laboratory governance.

Questions such as the following regarding laboratory organization face NIE as the Institute prepares for the lab competition.

- Should NIE place restrictions on the organizational models the Institute is willing to accept in the competition?
- Are there natural advantages to a particular organizational model that NIE should try to encourage and capitalize on?